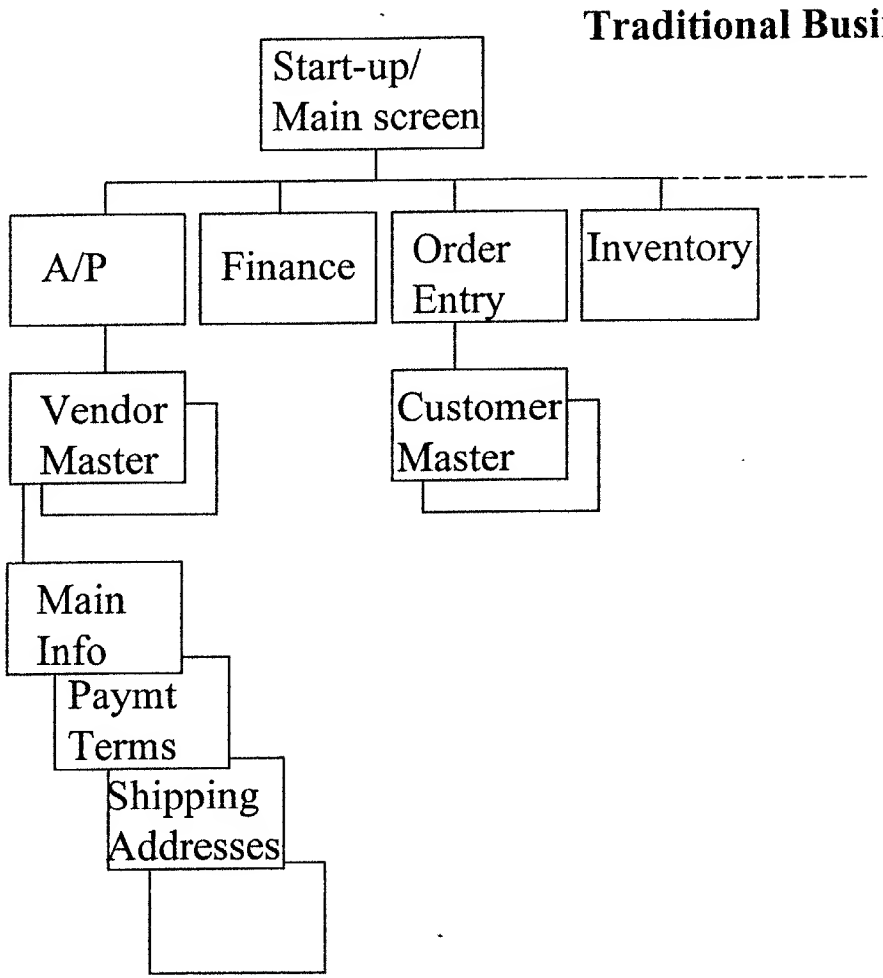
Fig. 1 (Prior Art)



Traditional Business Applications

Separate screens for vendors and customers.

Screens may be located several levels down a complicated menu tree.

Hundreds, if not thousands of screens with different look and feel, different layout, different information displayed.

Screens generally do not include reference to transactional data.

Fig. 2A

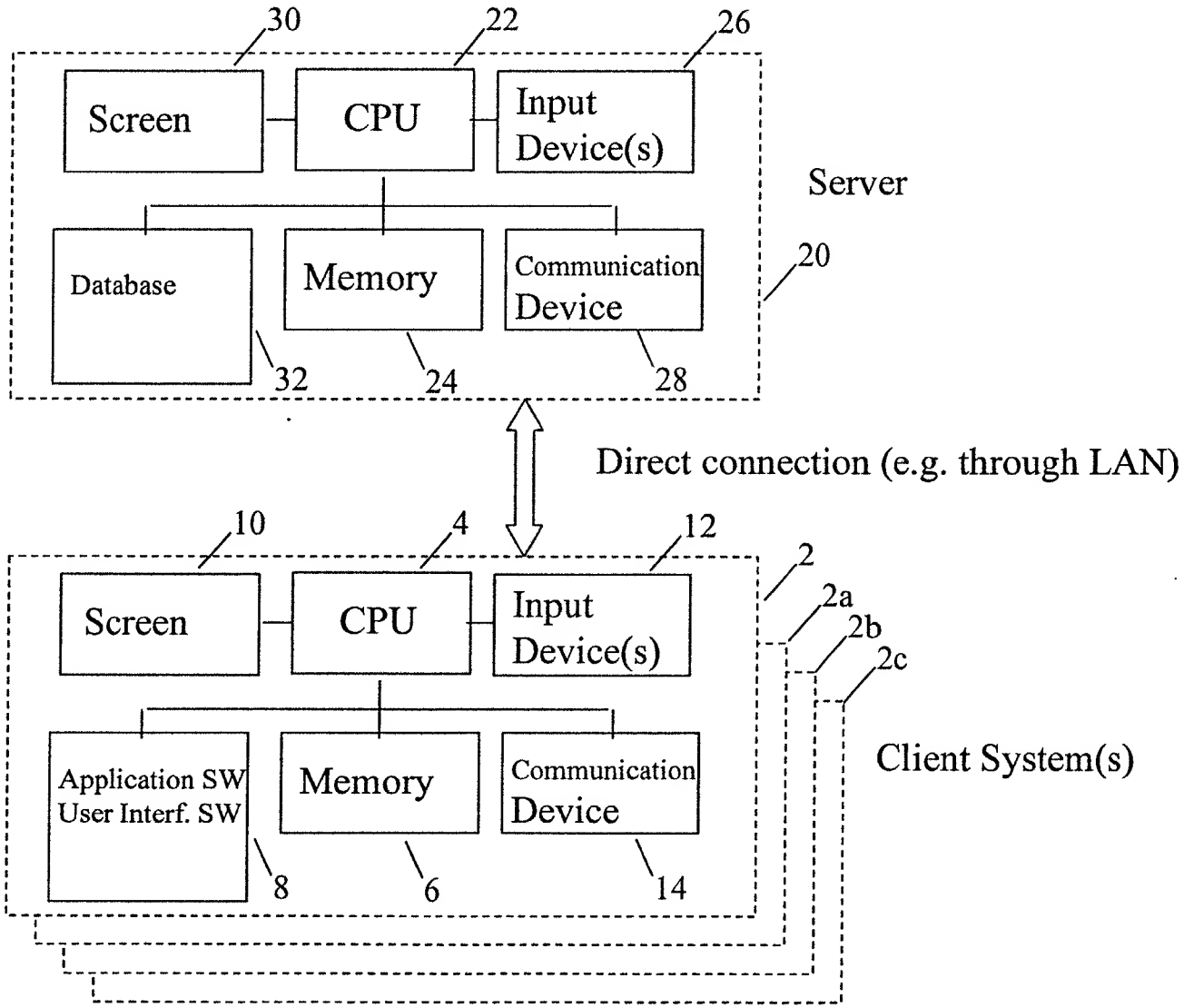

30
22
26
Screen
CPU
Input Device(s)
Server
Database
Memory
Communication Device
20
32
24
28
Direct connection (e.g. through LAN)
10
4
12
2
2a
2b
2c
Screen
CPU
Input Device(s)
Application SW
User Interf. SW
Memory
Communication Device
Client System(s)
8
6
14

Fig. 2B

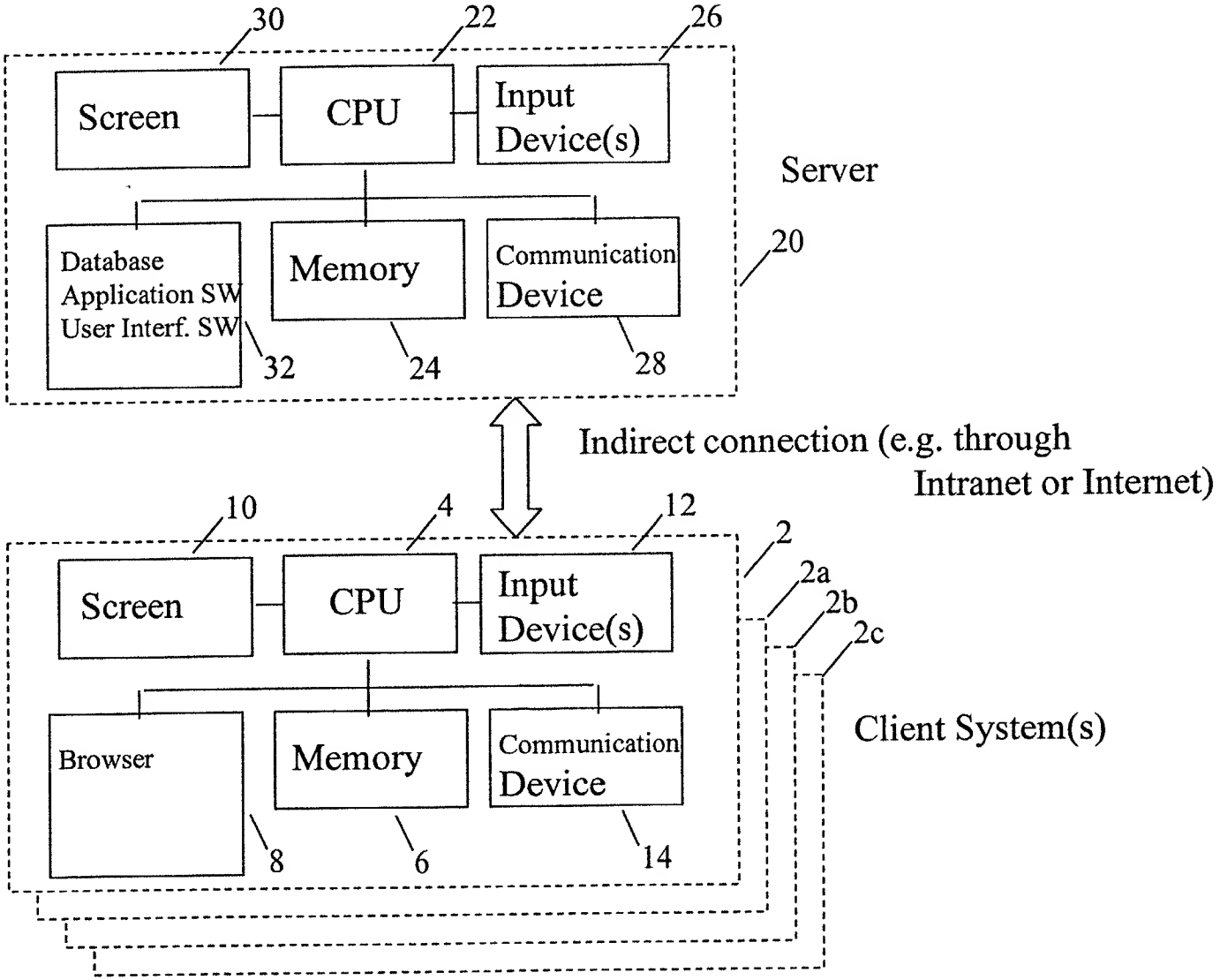

30
22
26
Screen
CPU
Input Device(s)
Server
Database Application SW User Interf. SW
Memory
Communication Device
20
32
24
28
Indirect connection (e.g. through Intranet or Internet)
10
4
12
2
2a
2b
2c
Screen
CPU
Input Device(s)
Browser
Memory
Communication Device
Client System(s)
8
6
14

Fig. 2C

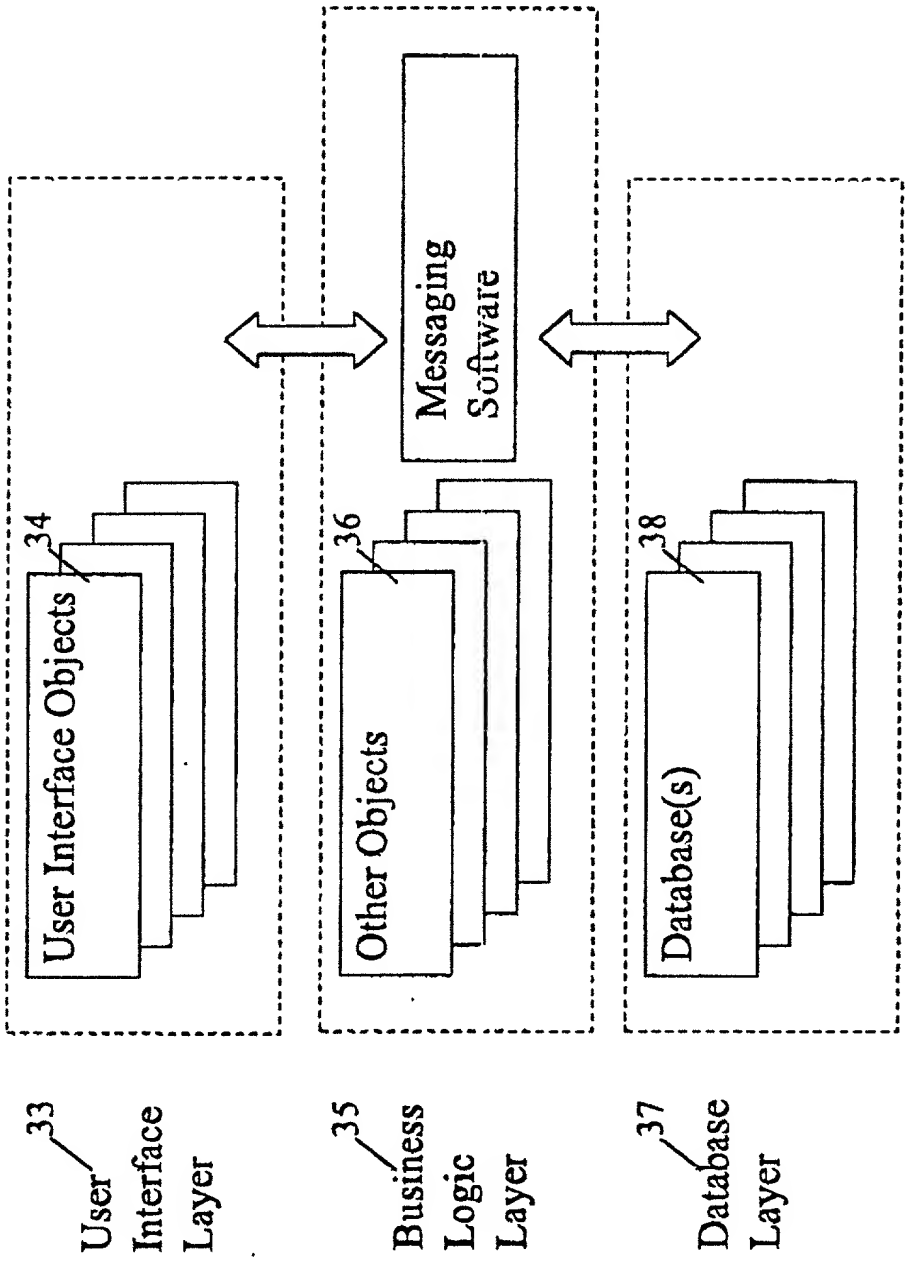

User Interface Objects
34
Other Objects
36
Messaging Software
Database(s)
38
33
User Interface Layer
35
Business Logic Layer
37
Database Layer

Fig. 3A

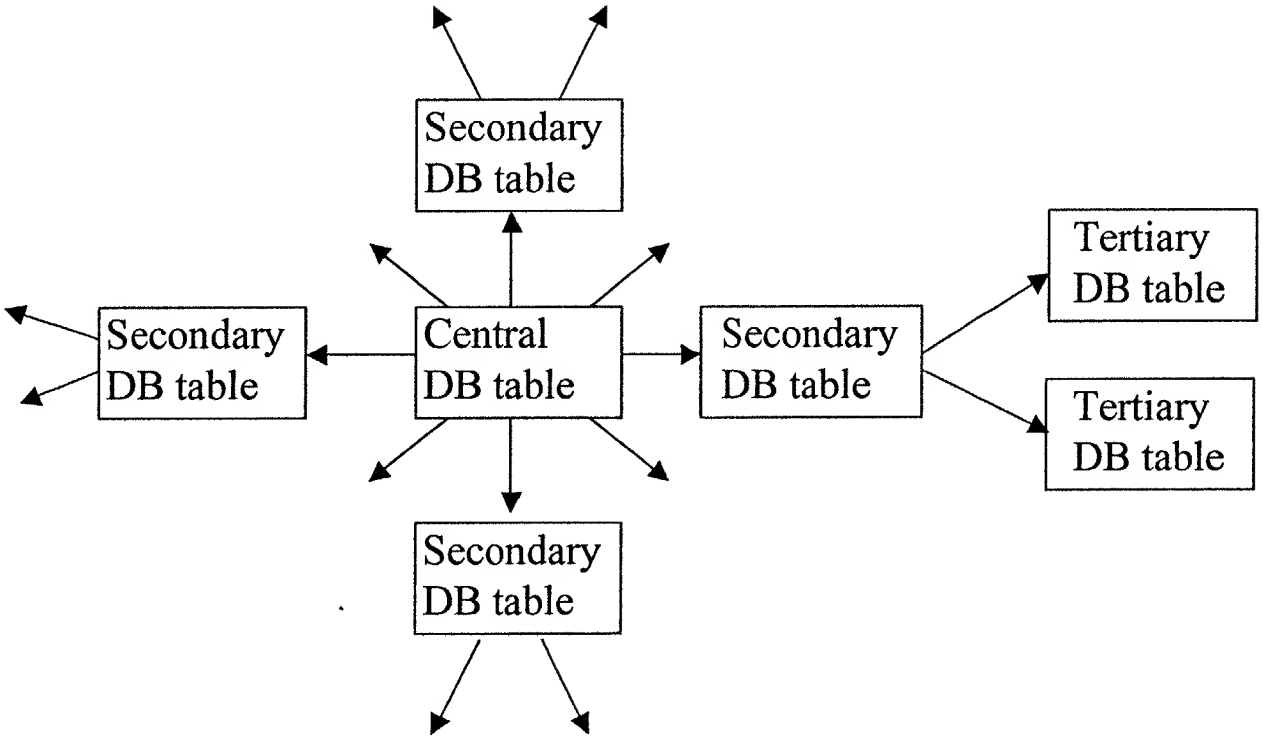
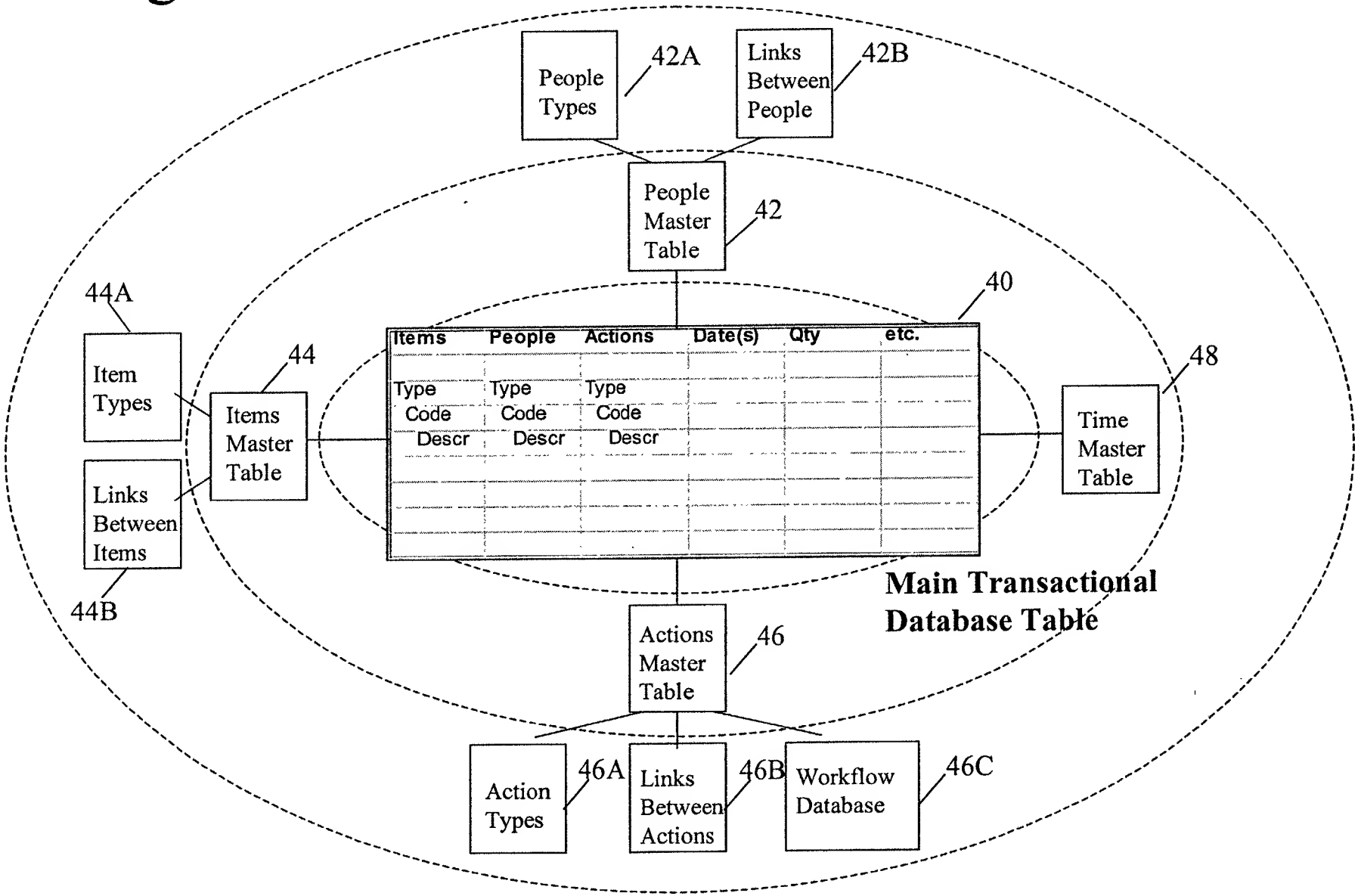
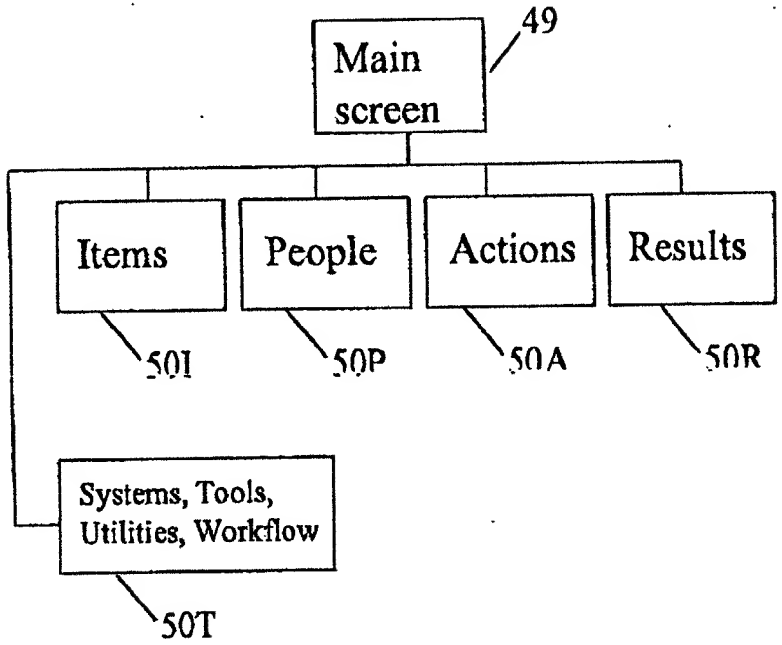

Secondary DB table
Secondary DB table
Central DB table
Secondary DB table
Tertiary DB table
Tertiary DB table
Secondary DB table

Fig. 3B


People Types
42A
Links Between People
42B
People Master Table
42
40
44A
Item Types
44
Items Master Table
Links Between Items
44B
Items
People
Actions
Date(s)
Qty
etc.
Type
Code
Descr
Type
Code
Descr
Type
Code
Descr
48
Time Master Table
Main Transactional Database Table
Actions Master Table
46
Action Types
46A
Links Between Actions
46B
Workflow Database
46C

06/04/2001 10:02 9787493196 APPS4B1.CUM

Fig. 4



One screen for vendors and customers (select "people type").
Easy to find.
Similar look and feel (although some fields are distinct).
Screen includes transactional data (double click to see details).

Fig. 5

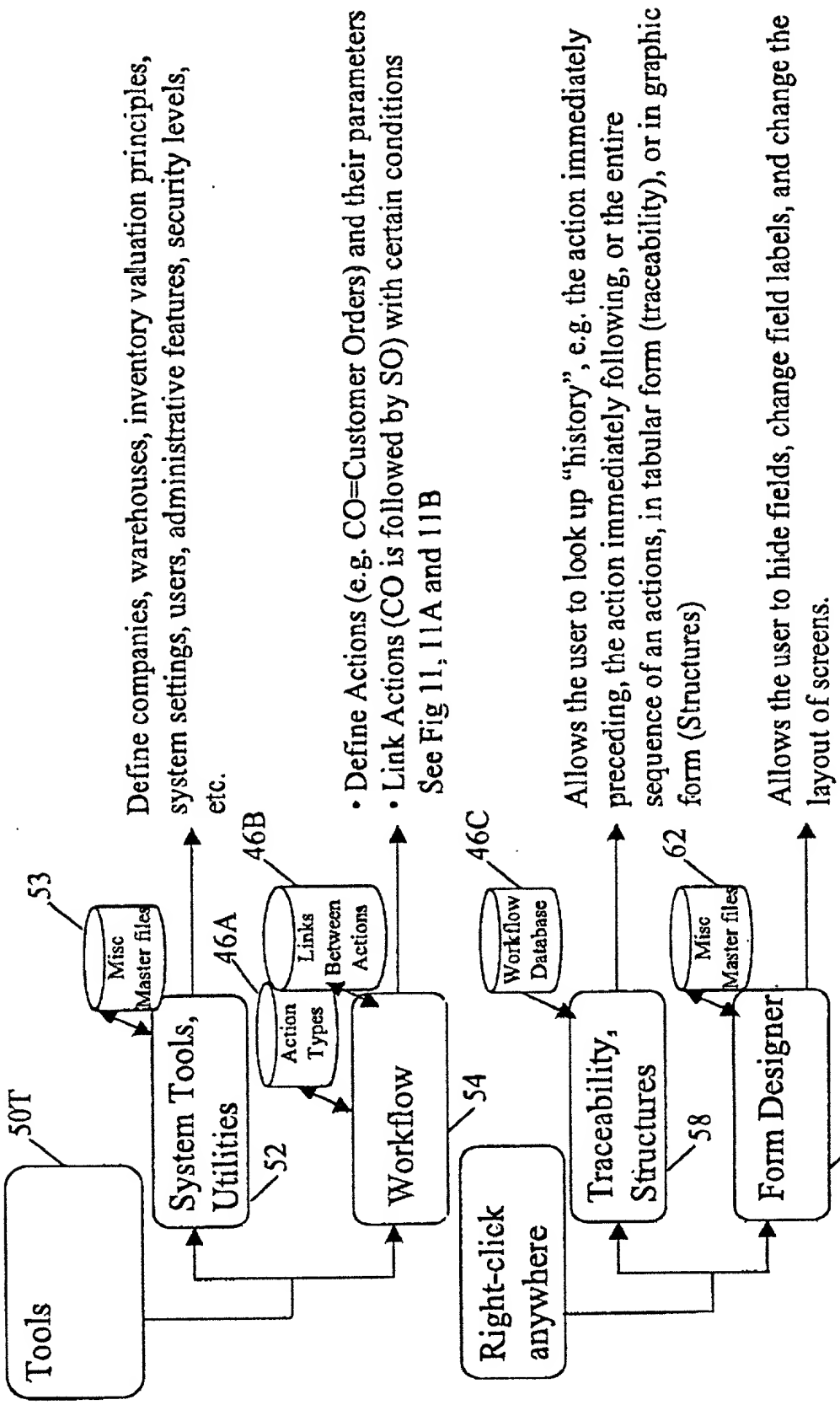

Tools
50T
System Tools, Utilities
52
Misc Master files
53
Action Types
Links Between Actions
46A
46B
Workflow
54
Define companies, warehouses, inventory valuation principles, system settings, users, administrative features, security levels, etc.
• Define Actions (e.g. CO=Customer Orders) and their parameters
• Link Actions (CO is followed by SO) with certain conditions
See Fig 11, 11A and 11B
Right-click anywhere
Workflow Database
46C
Traceability, Structures
58
Misc Master files
62
Form Designer
60
Allows the user to look up "history", e.g. the action immediately preceding, the action immediately following, or the entire sequence of an actions, in tabular form (traceability), or in graphic form (Structures)
Allows the user to hide fields, change field labels, and change the layout of screens.

Fig. 6

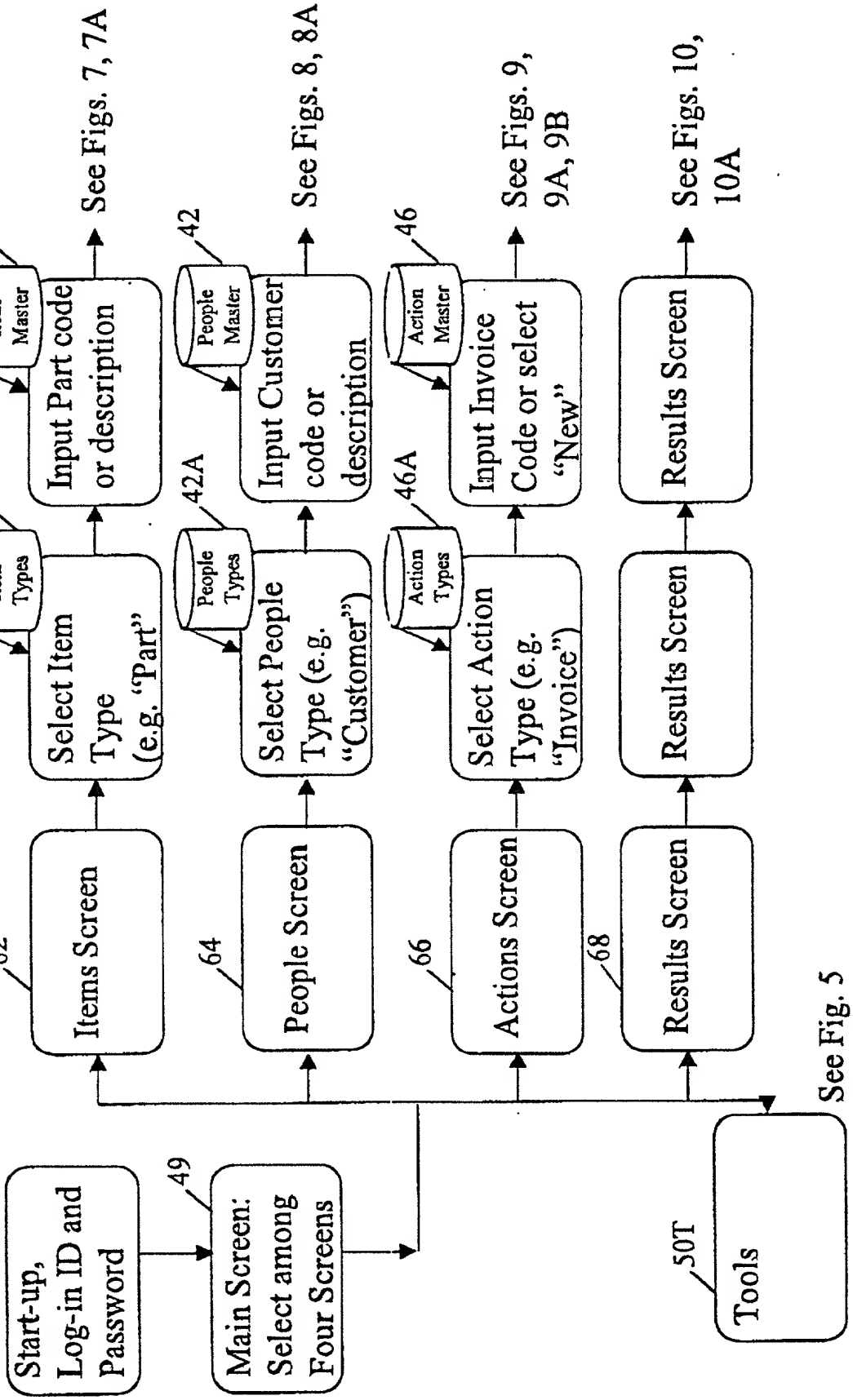
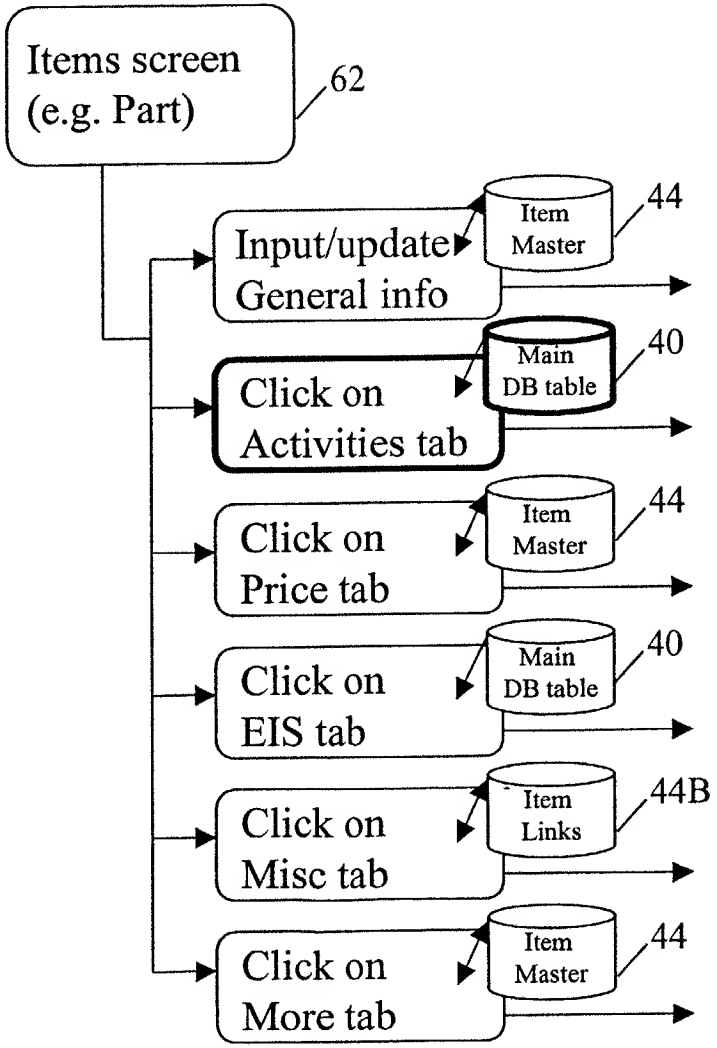

Start-up, Log-in ID and Password
Main Screen: Select among Four Screens
49
Items Screen
62
People Screen
64
Actions Screen
66
Results Screen
68
Tools
50T
See Fig. 5
Select Item Type (e.g. "Part"
Item Types
44A
Input Part code or description
Item Master
44
See Figs. 7, 7A
Select People Type (e.g. "Customer")
People Types
42A
Input Customer code or description
People Master
42
See Figs. 8, 8A
Select Action Type (e.g. "Invoice")
Action Types
46A
Input Invoice Code or select "New"
Action Master
46
See Figs. 9, 9A, 9B
Results Screen
Results Screen
See Figs. 10, 10A

Fig. 7



E.g. code, description, unit of measure, price, reorder quantity, target inventory, stock on hand, projected stock for a given date, etc. This information is contained in the top portion of the screen.

Display (read-only) all actions associated with this Part. User can chose between "open" and "all" actions.

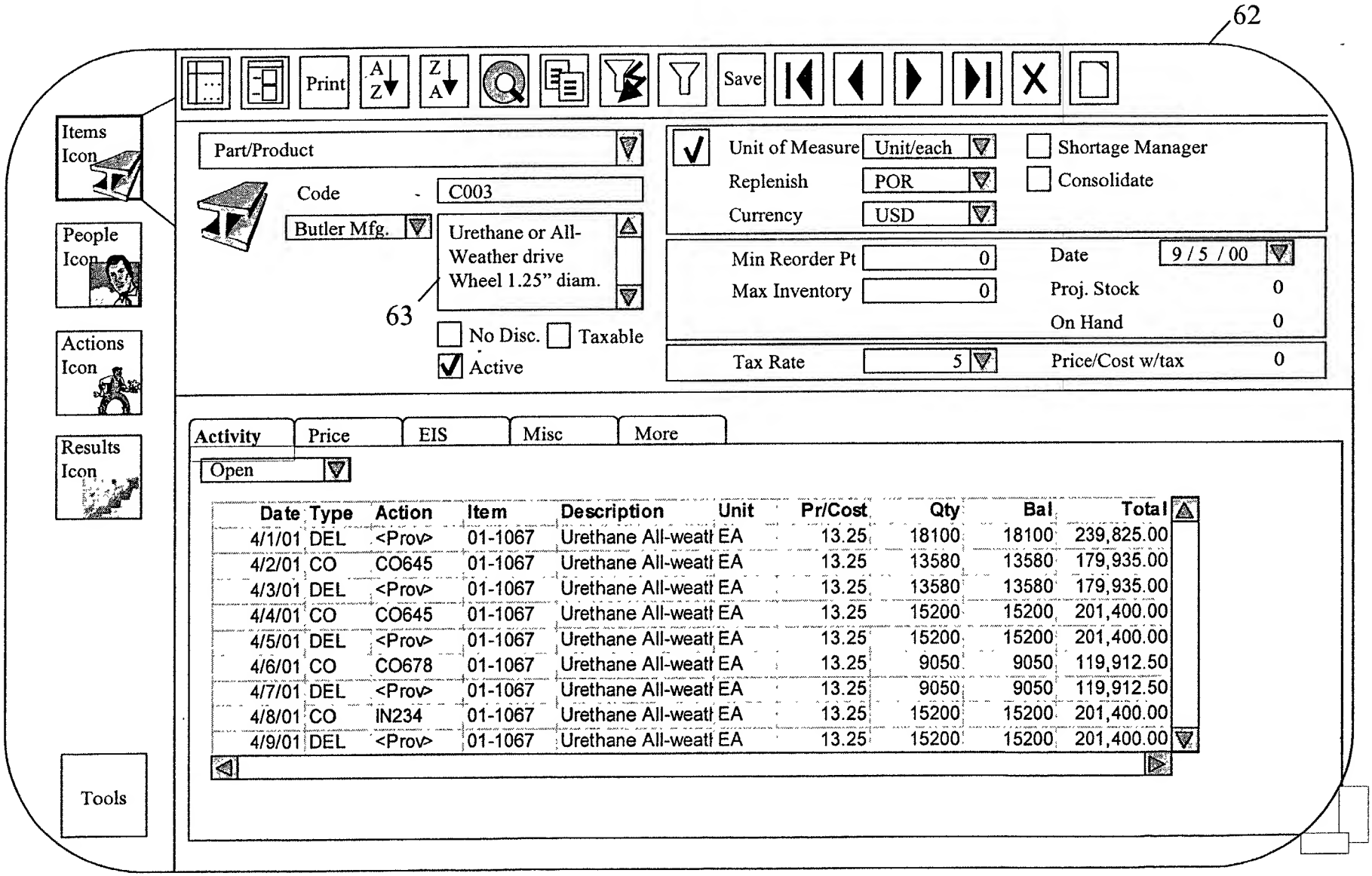
Display and/or update pricing info (cost, selling price, standards, currency, link to people or people groups, etc.)

Summarize Parts (read-only) activity for certain dates or periods. Ability to chart data.

Define relationships between items (e.g. multiple "Parts" may be combined to create a "Sales Item")

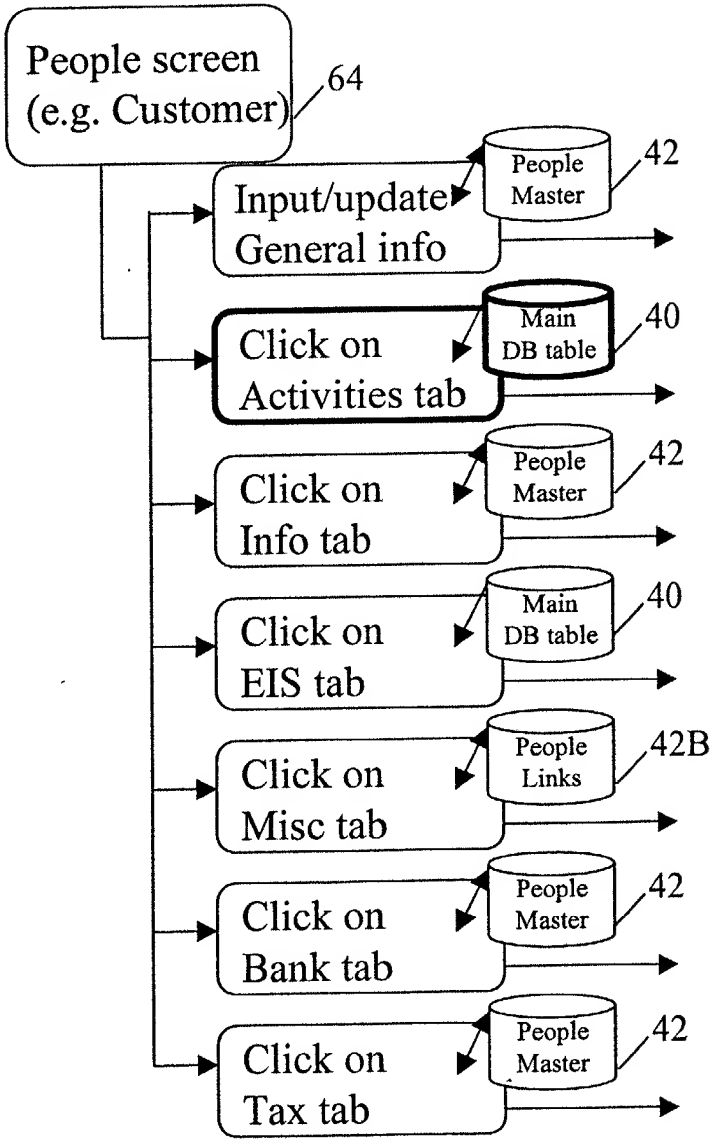
Input additional information through customizable fields

Fig. 7A



Date	Type	Action	Item	Description	Unit	Pr/Cost	Qty	Bal	Total
4/1/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	18100	18100	239,825.00
4/2/01	CO	CO645	01-1067	Urethane All-weatl	EA	13.25	13580	13580	179,935.00
4/3/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	13580	13580	179,935.00
4/4/01	CO	CO645	01-1067	Urethane All-weatl	EA	13.25	15200	15200	201,400.00
4/5/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	15200	15200	201,400.00
4/6/01	CO	CO678	01-1067	Urethane All-weatl	EA	13.25	9050	9050	119,912.50
4/7/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	9050	9050	119,912.50
4/8/01	CO	IN234	01-1067	Urethane All-weatl	EA	13.25	15200	15200	201,400.00
4/9/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	15200	15200	201,400.00

Fig. 8



E.g. code, addresses, phone numbers, contacts, etc. This information is contained in the top portion of the screen.

Display (read-only) all actions associated with this Customer. User can chose between "open" and "all" actions.

Display and/or update general info (language, price lists, payment terms, currency, etc.) associated with this Customer.

Summarize (read-only) Customer activity for certain dates or periods. Ability to chart data.

Input additional info (e.g. multiple contacts, multiple people types, history of communications, details on pricing, etc.).

Input banking information of this Customer.

Input tax information (Tax IDs, codes, etc.)

Fig. 8A

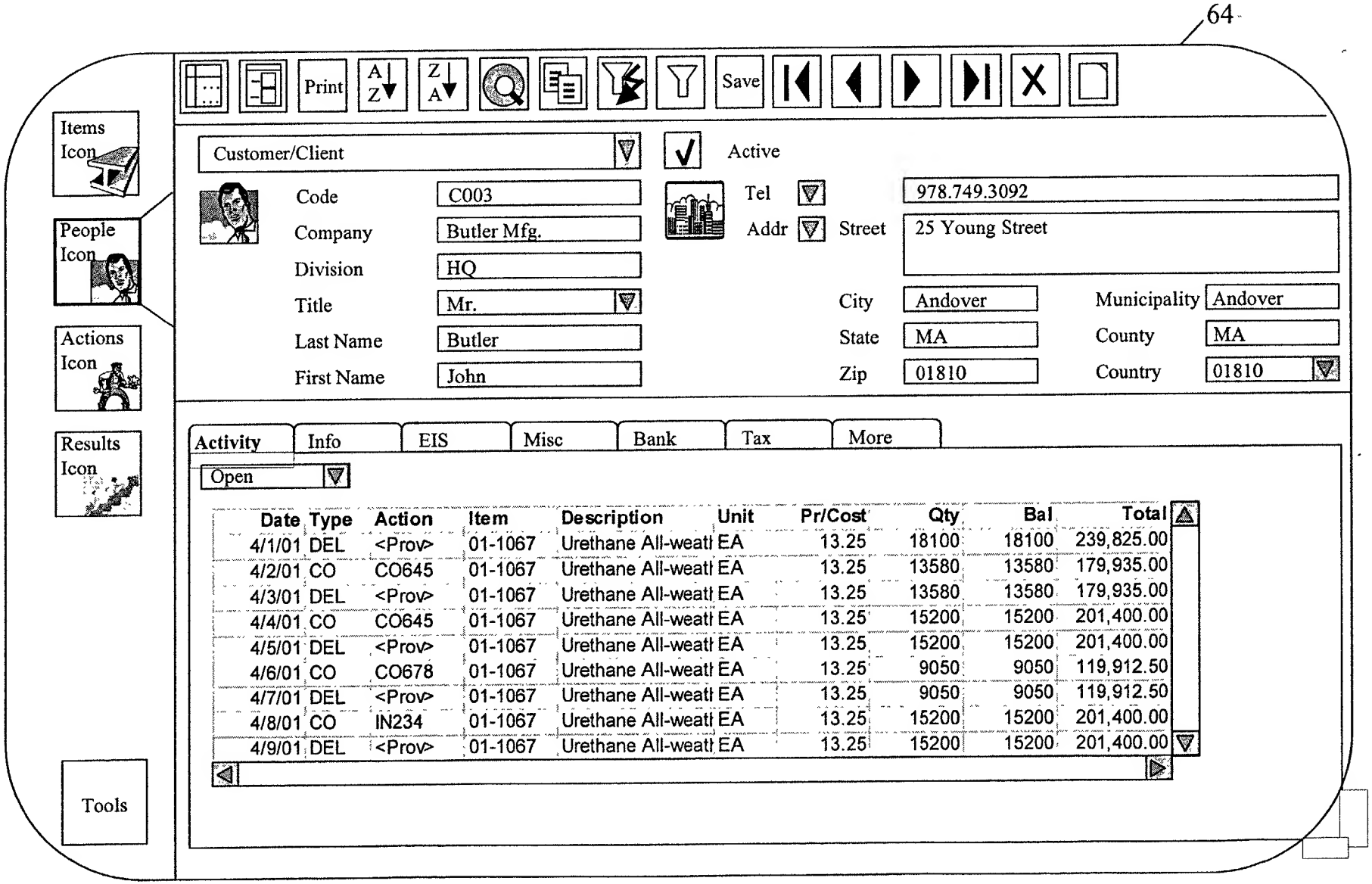
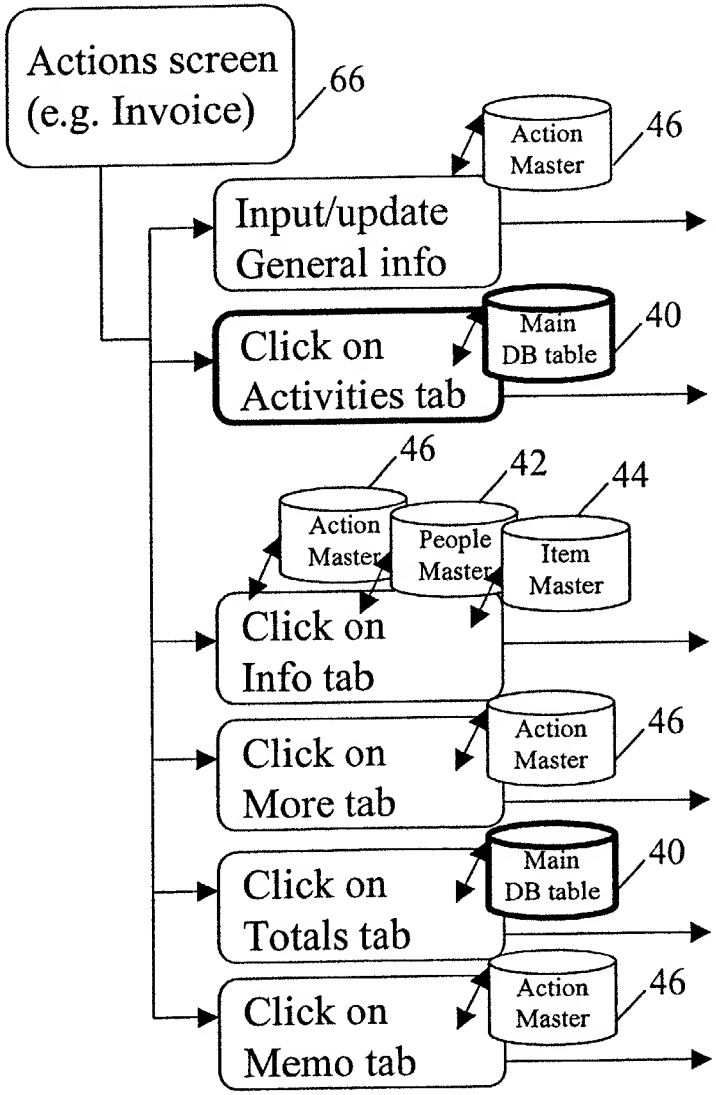

64
Print
Save
Items Icon
People Icon
Actions Icon
Results Icon
Tools
Customer/Client
Active
Code
C003
Company
Butler Mfg.
Division
HQ
Title
Mr.
Last Name
Butler
First Name
John
Tel
978.749.3092
Addr
Street
25 Young Street
City
Andover
Municipality
Andover
State
MA
County
MA
Zip
01810
Country
01810
Activity
Info
EIS
Misc
Bank
Tax
More
Open
Date Type Action Item Description Unit Pr/Cost Qty Bal Total
4/1/01 DEL <Prov> 01-1067 Urethane All-weatl EA 13.25 18100 18100 239,825.00
4/2/01 CO CO645 01-1067 Urethane All-weatl EA 13.25 13580 13580 179,935.00
4/3/01 DEL <Prov> 01-1067 Urethane All-weatl EA 13.25 13580 13580 179,935.00
4/4/01 CO CO645 01-1067 Urethane All-weatl EA 13.25 15200 15200 201,400.00
4/5/01 DEL <Prov> 01-1067 Urethane All-weatl EA 13.25 15200 15200 201,400.00
4/6/01 CO CO678 01-1067 Urethane All-weatl EA 13.25 9050 9050 119,912.50
4/7/01 DEL <Prov> 01-1067 Urethane All-weatl EA 13.25 9050 9050 119,912.50
4/8/01 CO IN234 01-1067 Urethane All-weatl EA 13.25 15200 15200 201,400.00
4/9/01 DEL <Prov> 01-1067 Urethane All-weatl EA 13.25 15200 15200 201,400.00

Fig. 9



E.g. code, description, file number, date (creation/expiration), associated people record, etc.

This is where most of the system entries will occur. Activities can be generated in two basic manners

- Manual input of (new) line items associated with the Action.
- "Release Open Items" button

Details see Fig. 9B

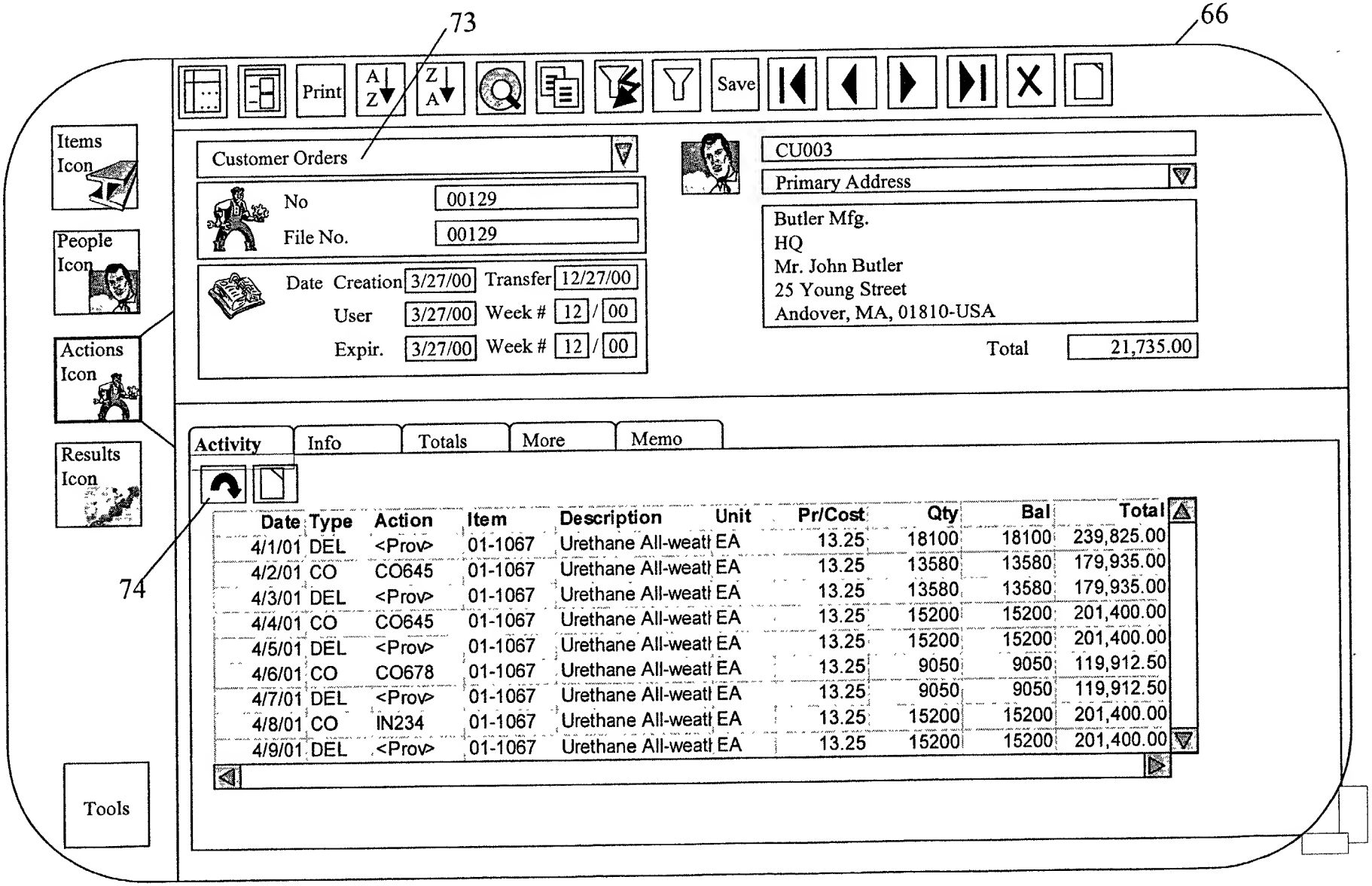
Display and/or update general info (language, currency, shipping info, price lists, payment terms, etc.), based on information contained in Item and/or People records

Input additional information through customizable fields

Displays totals (total sales, tax, discounts, margins, etc.) for the entire action, including multiple line items

Input comments, header info and footer info (used in reports)

Fig. 9A



Date	Type	Action	Item	Description	Unit	Pr/Cost	Qty	Bal	Total
4/1/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	18100	18100	239,825.00
4/2/01	CO	CO645	01-1067	Urethane All-weatl	EA	13.25	13580	13580	179,935.00
4/3/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	13580	13580	179,935.00
4/4/01	CO	CO645	01-1067	Urethane All-weatl	EA	13.25	15200	15200	201,400.00
4/5/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	15200	15200	201,400.00
4/6/01	CO	CO678	01-1067	Urethane All-weatl	EA	13.25	9050	9050	119,912.50
4/7/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	9050	9050	119,912.50
4/8/01	CO	IN234	01-1067	Urethane All-weatl	EA	13.25	15200	15200	201,400.00
4/9/01	DEL	<Prov>	01-1067	Urethane All-weatl	EA	13.25	15200	15200	201,400.00

Fig. 9B

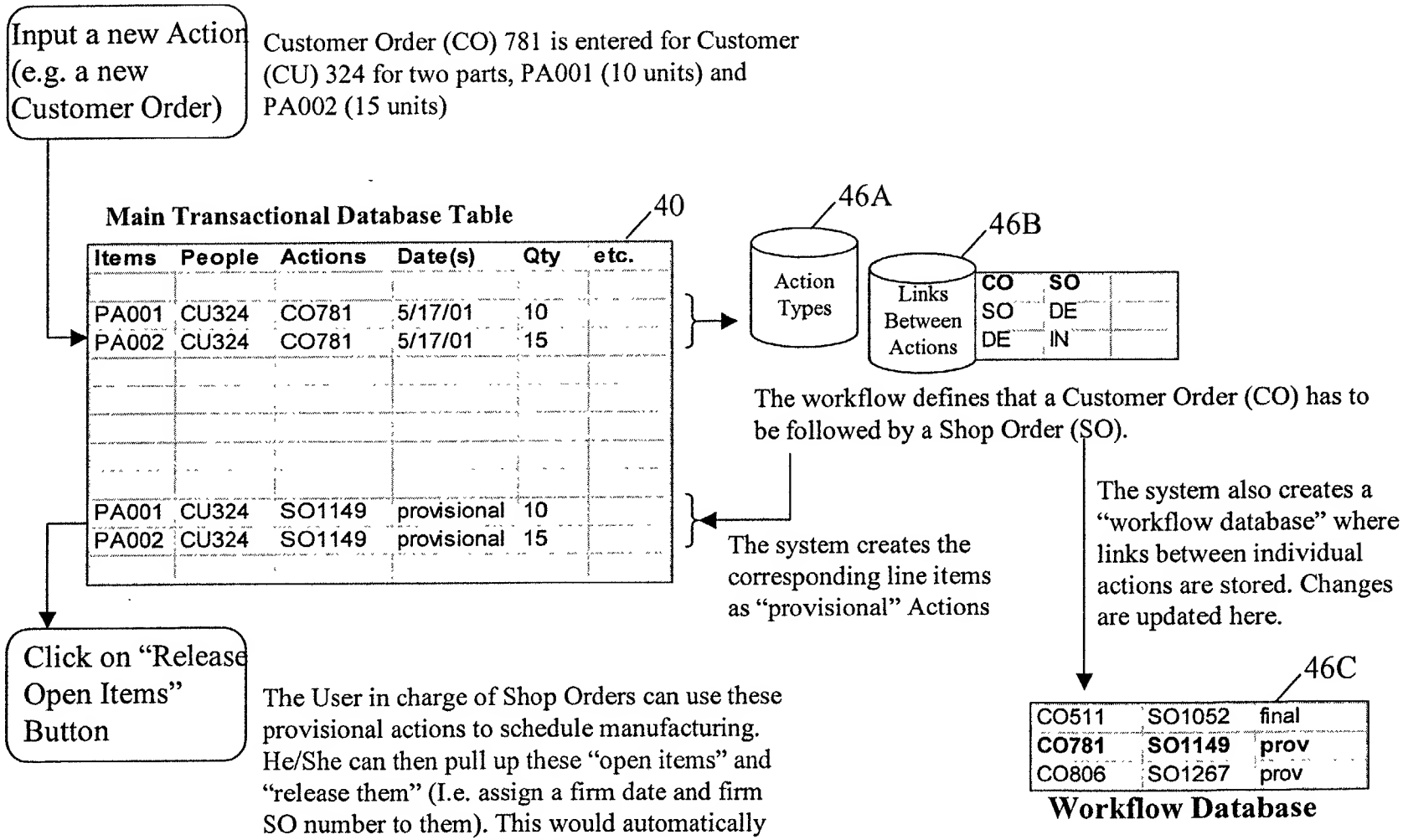
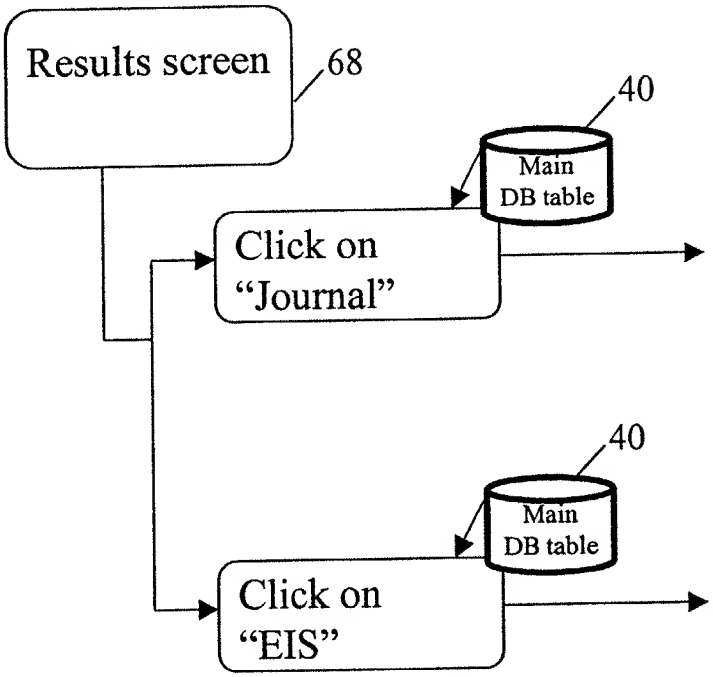

Input a new Action (e.g. a new Customer Order)
Customer Order (CO) 781 is entered for Customer (CU) 324 for two parts, PA001 (10 units) and PA002 (15 units)
Main Transactional Database Table
40
Items People Actions Date(s) Qty etc.
PA001 CU324 CO781 5/17/01 10
PA002 CU324 CO781 5/17/01 15
PA001 CU324 SO1149 provisional 10
PA002 CU324 SO1149 provisional 15
46A
Action Types
46B
Links Between Actions
CO SO
SO DE
DE IN
The workflow defines that a Customer Order (CO) has to be followed by a Shop Order (SO).
The system creates the corresponding line items as "provisional" Actions
The system also creates a "workflow database" where links between individual actions are stored. Changes are updated here.
46C
CO511 SO1052 final
CO781 SO1149 prov
CO806 SO1267 prov
Workflow Database
Click on "Release Open Items" Button
The User in charge of Shop Orders can use these provisional actions to schedule manufacturing. He/She can then pull up these "open items" and "release them" (I.e. assign a firm date and firm SO number to them). This would automatically trigger the next step in the workflow.

Fig. 10



Enter date or range of dates;
Select between open/closed/all actions;
Enter a filter (e.g. by action type;
Group and sort by different criteria.
→The system displays a list of all actions and activities according to the input given (read-only).
→ Output is provided in tabular form.

NB: EIS stands for Executive Information System
Enter date or range of dates;
Select between open/closed/all actions;
Enter a filter (e.g. by action type;
Group and sort by different criteria.
→ The system displays a summary of all actions and activities according to the input given (read-only).
→ Output is provided in graphical form or in the form of a "Ten best" list, etc.

Fig. 10A

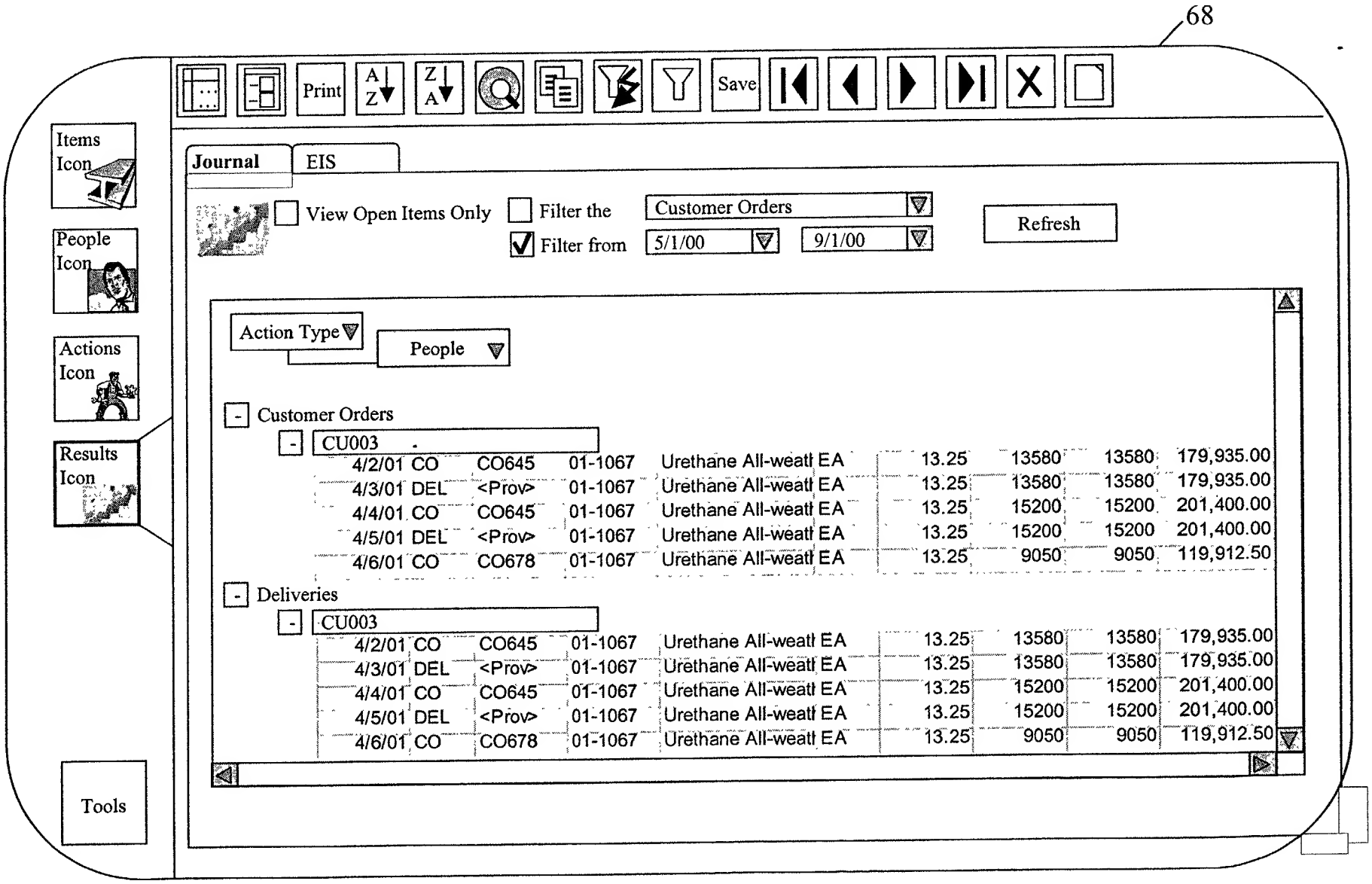

68
Print
Save
Items Icon
People Icon
Actions Icon
Results Icon
Tools
Journal
EIS
View Open Items Only
Filter the
Customer Orders
Filter from
5/1/00
9/1/00
Refresh
Action Type
People
Customer Orders
CU003
4/2/01 CO CO645 01-1067 Urethane All-weatl EA 13.25 13580 13580 179,935.00
4/3/01 DEL <Prov> 01-1067 Urethane All-weatl EA 13.25 13580 13580 179,935.00
4/4/01 CO CO645 01-1067 Urethane All-weatl EA 13.25 15200 15200 201,400.00
4/5/01 DEL <Prov> 01-1067 Urethane All-weatl EA 13.25 15200 15200 201,400.00
4/6/01 CO CO678 01-1067 Urethane All-weatl EA 13.25 9050 9050 119,912.50
Deliveries
CU003
4/2/01 CO CO645 01-1067 Urethane All-weatl EA 13.25 13580 13580 179,935.00
4/3/01 DEL <Prov> 01-1067 Urethane All-weatl EA 13.25 13580 13580 179,935.00
4/4/01 CO CO645 01-1067 Urethane All-weatl EA 13.25 15200 15200 201,400.00
4/5/01 DEL <Prov> 01-1067 Urethane All-weatl EA 13.25 15200 15200 201,400.00
4/6/01 CO CO678 01-1067 Urethane All-weatl EA 13.25 9050 9050 119,912.50

Fig. 11

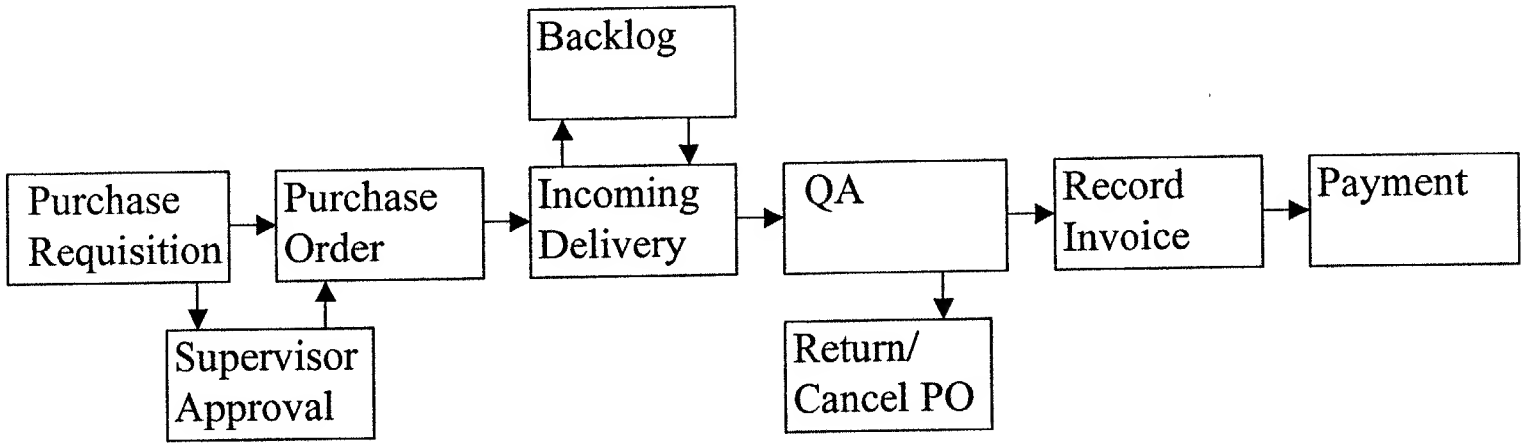

Backlog
Purchase Requisition
Purchase Order
Incoming Delivery
QA
Record Invoice
Payment
Supervisor Approval
Return/ Cancel PO

Fig. 11A

Table "Action Types" 46A

Type	Description	Inventory	Etc.
Purch Req	Purchase Requisition	N	
Purch Order	Purchase Order	N	
Sup Approv	Supervisor Approval	N	
Incom Deliv	Incoming Deliver	N	
Backlog	Backlog (Purchases)	N	
QA	Incoming Quality Assur.	Y	
Return	Return to supplier	N	

Fig. 11B

Table "Links Between Actions" 46B

Action 1	Action 2	Cond	Type
Purch Req	Purch Order		
Purch Req	Sup Approv		
Sup Approv	Purch Order		
Purch Ord	Incom Deliv		
Incom Deliv	Backlog		
Backlog	Incom Deliv		
Incom Deliv	QA		
QA	Return		
QA	Invoice		
Invoice	Payment		